STANDING ROCK SIOUX TRIBE

WATER RESOURCES CONTROL BOARD

DRAFT REGULATIONS - WATER QUALITY STANDARDS

Section 1 Definitions

For the purposes of this rule:

(a) "Acute toxicity" means a deleterious response (e.g. mortality, disorientation, immobilization) to a stimulus observed in 96 hours or less.

(b) "Applicant" means any person who applies for a license or permit from any federal or Tribal agency that may result in the discharge of any pollutant into the surface waters of the Reservation, or wetlands within the exterior boundaries of the Reservation.

(c) "Background conditions" mean the biological, chemical and physical conditions of a water body, upstream from the point or non-point source discharge under consideration. In determining background conditions, sampling locations in an enforcement action will be upstream from the point of discharge, but not upstream from other inflows. If several discharges to any water body exist, and an enforcement action is being undertaken for possible violations of the standards, background sampling will be undertaken immediately upstream from each discharge.

(d) "Board" means the Standing Rock Sioux Tribe Water Resources Control Board."

(e) "Ceremonial and religious water use" means activities involving traditional Lakota or Dakota cultural or spiritual practices.

(f) "Certification" means a notice issued by the Department of approval, approval with conditions or denial of an application for certification.

(g) "Chronic toxicity" means the lowest concentration of a constituent causing observable effects (i.e. lethality, growth, reduced reproduction) over a relatively long period of time.

(h) "Department" means the Standing Rock Sioux Tribe Department of Water Resources, acting through the Clean Water Act section 106 Water Pollution Prevention program.

(i) "EPA" means the U.S. Environmental Protection Agency.

(j) "Mixing zone" or "dilution zone" means a limited area of volume of water where initial dilution of discharge takes place, and where numeric water quality criteria can be exceeded but acutely toxic conditions are prevented from occurring.

(k) "Person" includes a natural person, corporation, partnership, business association, government agency or instrumentality and publicly-owned treatment works.

(l) "pH" means the negative logarithm of the hydrogen ion concentration.

(m) "Primary contact recreation" means activities where a person would have direct contact with water, such as swimming.

(n) "Reservation" means the portion of the Great Sioux Reservation, defined in the Treaty of Fort Laramie of April 29, 1868 (15 Stat. 635) and lands included under the Executive Order of 1877, set aside as the Standing Rock Indian Reservation in the Act of March 2, 1889 (25 Stat. 888).

(o) "Secondary contact recreation" means activities in which a person's direct contact with water is limited, to the extent that bacterial infections of eyes, ears, respiratory or digestive systems would normally be avoided (i.e. fishing, wading).

(p) "Surface water" means all water above the surface of the ground within the exterior boundaries of the Standing Rock Indian Reservation, including but not limited to rivers, streams, creeks, lakes, ponds, reservoirs artificial impoundments, springs, seeps and wetlands.

(q) "Temperature" means water temperature expressed in Centigrade or Fahrenheit degrees.

(r) "Total dissolved solids (TDS)" means the total filterable residue that passes through a standard glass fiber filter disk and remains after evaporation and drying to a constant weight at 180 degrees Centigrade. It is considered to be a measure of the dissolved salt content of water.

(s) "Tribal Council" means the legislative branch of the Standing Rock Sioux Tribal government, as described in Articles III and IV of the Constitution of the Standing Rock Sioux Tribe (April 24, 1959).

(t) "Water quality standard" means the water quality goal for a surface water body of the Reservation, or a portion thereof, by designating the use or uses of the water, by setting criteria necessary to protect the uses, and to protect the water quality through an anti-degradation plan.

(u) "Wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that under normal circumstances do support, a prevalence of vegetation typically adapted for saturated soil conditions.

Section 2 Classifications of Waters of the Reservation

The following use classifications shall be applied to the surface waters of the Reservation for the purpose of establishing the water quality standards prescribed in this Code:

(1) Domestic water supply – surface waters that are suitable or intended to become suitable for drinking, culinary and food processing, after conventional treatment for naturally present impurities.

(2) Cultural – surface waters that are suitable for cultural, ceremonial and religious uses, which may include full contact with surface water.

(3) Coldwater permanent fish life propagation – surface waters capable of supporting cold water fish species (i.e. salmonids) and associated aquatic biota.

(4) Coolwater permanent fish life propagation – surface waters capable of supporting natural reproduction and growth of cool water fishes (i.e. northern pike and walleye). These waters are capable of supporting the growth and marginal survival of cold water species and associated aquatic biota.

(5) Warmwater permanent fish life propagation – surface waters capable of supporting natural reproduction of warm water fishes (i.e. largemouth bass bluegill) and associated aquatic biota. Some cool water species may also be present.

(6) Other aquatic life – surface waters capable of propagation and growth of a variety of aquatic invertebrate biota. These are small perennial headwater streams, intermittent streams or springs which due to natural conditions do not have the potential to support fish.

(7) Wetlands – surface waters that are suitable for maintaining aquatic biota within the natural range of variation of the wetland.

(8) Full contact recreation – surface waters that are suitable for or intended to become suitable for recreational activities in or on the water under circumstances in which the ingestion of a small amount of water may occur. Such waters include but are not limited to those used for bathing, swimming and ceremonial uses.

Commented [WH1]: Recommend "Designated Uses."

Commented [WH2]: Recommend inserting language before this sentence to define designated uses and their purpose. Something like: "Designated uses are assigned to water bodies to protect water quality appropriate for each use. Waters of the Reservation are assigned designated uses to serve the purposes of the Clean Water Act, as defined at sections 101(a)(2) and 303(c). Water quality standards should provide, wherever attainable, water quality for the protection of fish, shellfish, and wildlife, recreation in and on the water, as well as considering the use and value of waters for public water supplies, industrial purposes and navigation."

Commented [WH3]: May consider including … suitable to provide an adequate supply of drinking water for the continuation of the health and well-being of the residents of SRST. These are waters that with conventional treatment will be suitable for human intake and meet federal regulations for drinking water.

Commented [WH4]: Consider revising to "…full contact with and/or ingestion of surface water."

Commented [WH5]: [Same as ND's] May wish to consider including "…. where water temperature, habitat and other characteristics are suitable for support and propagation of cold water fish and other aquatic life, or serve as a spawning nursery area for cold water fish species…"

Commented [WH6]: [Same as ND's] May wish to consider including "…where water temperature, habitat and other characteristics are suitable for support and propagation of warm water fish and other aquatic life, or serving as a spawning or nursery area for warm water fish species…"

Commented [WH7]: May wish to consider including "…that will be protected and maintained for some of the following uses: Maintaining biological diversity, preserving wildlife habitat, providing recreational activities, erosion control, ground water recharge, low flow augmentation, storm water retention, and prevention of stream sedimentation…"

Commented [WH8]: Consider deleting "a small amount of" as the language may be more appropriate for secondary, limited or incidental contact recreation.

(9) Incidental contact recreation – surface waters that are suitable or intended to become suitable for recreational activities on or about the water which are not included in the full contact category, including, but not limited to fishing, wading or streamside recreation.

Commented [WH9]: Consider including "…, in which the probability of ingesting water is minimal…"

(10) Wildlife – surface waters that are suitable for all furbearers and waterfowl.

(11) Agriculture / Livestock – surface waters that are suitable or intended to become suitable for crops customarily grown on the Reservation and for livestock.

(12) Industrial – surface waters that are suitable for industrial processes or cooling water.

Section 3 Use Designations of Waters of the Reservation for Purposes of Water Quality Standards

Commented [WH10]: Can include this Designated Uses table in Section 2 (ie., you don't need to create a new section) and can title it as "Table 1. Designated Uses."

(a) For the purpose of this section, the definition of uses prescribed in section two of this rule shall apply to the "Use" columns.

Use	Missouri R/Grand below Hwy 12	CannonBall R/Cedar Cr	Porcupine Creek	4 Mile Creek	Oak Creek	Grand above Hwy12	Froehlich Dam	Morris town Lake
1	x							
2	x	x	x	x	x	x		
3	x							
4	x						x	x
5		x	x	x	x	x		
6		x	x	x	x	x		
7								
8	x	x	x	x	x	x	x	x
9								
10	x	x	x	x	x	x		
11	x	x	x	x	x			

(b) If waters have more than one designated use and criteria are established for a parameter that is common to two or more uses, the more restrictive criteria for the common parameter applies.

Section 4 Numeric Criteria for Water Classifications

(a) The following criteria shall apply be used to determine impaired waters of the Reservation:

(1) Criteria for Domestic Water Supply Waters

Parameter	Criteria
Total dissolved solids	≤ 1,000 mg/l (30-day average) ≤ 1,750 mg/l (daily maximum)
Nitrates	≤ 10 mg/l (daily maximum)
pH	≥ 6.9 - ≤ 8.9
Total coliform	≤ 5,000 / 100 ml (geometric mean of 5 daily samples during a 30-day period) ≤ 20,000 / 100 ml (any sample)
Barium	≤ 1.0mg/l
Chloride	≤ 250 mg/l (30-day average) 438 mg/l (daily maximum)
Fluoride	≤ 4.0 (daily maximum)
Sulfate	≤ 500 mg/l (30-day average) ≤ 875 mg/l (daily maximum)
Total petroleum hydrocarbons	≤ .01 mg/l (daily maximum)

Commented [WH11]: Check EPA's recommended WQC for nitrate. NDDEQ's Nitrate criterion is 1.0 mg/L (up to 10% of samples may exceed).

Commented [WH12]: Check EPA's recommended WQC for barium. NDDEQ's is also 1 mg/L (1-day arithmetic average).

Commented [WH13]: Check EPA's recommended WQC for chloride. NDDEQ's WQC for chloride (total) is: Class 1: 100 mg/l (30-day arithmetic average); Class 1A: 175 mg/l (30 day arithmetic average); and Class II and Class III: 250 mg/l (30 day arithmetic average).

(2) Criteria for Cultural Use Waters

Parameter	Criteria
Dissolved oxygen	≥ 5.0 mg/l (daily minimum)
Fecal coliform	≤ 200 / 100 ml (geometric mean of 5 daily samples during a 30-day period) ≤ /100 ml (daily average)
Escherichia coli	≤ 126 /100 ml (geometric mean of 5 daily samples during a 30-day period) ≤ 235 / 100 ml (daily minimum)

(3) Criteria for Coldwater Permanent Fish Life Propagation

Parameter	Criteria
Total ammonia nitrogen	See EPA Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014 (1999)
Chlorides	≤ 100 mg/l (30 day daily average) ≤ 175 mg/l (daily maximum)
Dissolved oxygen	≥ 6.0 mg/l (daily minimum) ≥ 7.0 mg/l (daily minimum for spawning)
Undissociated hydrogen sulfide	≤ 0.002 mg/l (daily maximum)
pH	≥ 6.9 - ≤ 8.9
Total suspended solids	≤ 30 mg/l (30-day average) ≤ 53 mg/l (daily maximum)
Temperature	≤ 18.3° C (65° F)

(4) Criteria for Coolwater Permanent Fish Life Propagation

Parameter	Criteria
Total ammonia nitrogen	See EPA Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014 (1999)
Dissolved oxygen	≥ 5.0 mg/l (daily minimum)
Undissociated hydrogen sulfide	≤ 0.002 mg/l (daily maximum)
pH	≥ 6.9 - ≤ 8.9
Total suspended solids	≤ 90 mg/l (30-day average) ≤ 158 mg/l (daily maximum)
Temperature	≤ 24° C (75° F)

(5) Criteria for Warmwater Permanent Fish Life Propagation

Parameter	Criteria
Total ammonia nitrogen	See the EPA Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014 (1999)
Dissolved oxygen	≥ 5.0 mg/l (daily minimum)
Undissociated hydrogen sulfide	≤ 0.002 mg/l (daily maximum)
pH	≥ 6.9 - ≤ 8.9
Total suspended solids	≤ 90 mg/l (30-day average) ≤ 158 mg/l (daily maximum)
Temperature	≤ 26.7° C (80° F)

(6) Criteria for Other Aquatic Life

Parameter	Criteria
Total ammonia nitrogen	See EPA Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014 (1999)
Dissolved oxygen	≥ 5.0 mg/l (daily minimum)
Undissociated hydrogen sulfide	≤ 0.002 mg/l (daily maximum)
pH	≥ 6.9 - ≤ 8.9
Total suspended solids	≤ 90 mg/l (30-day average) ≤ 158 mg/l (daily maximum)
Temperature	≤ 26.7° C (80° F)

(7) Criteria for Wetlands

Parameter	Criteria
Sodium Absorption Ratio (SAR)	≤ 2.0
pH	≥ 6.9 - ≤ 8.9

(8) Full Contact Recreation

Parameter	Criteria
Dissolved oxygen	≥ 5.0 mg/l (daily minimum)
Fecal coliform	≤ 200 /100 ml (geometric mean of 5 daily samples during a 30-day period) ≤ 400 ml (at any one time)
Escherichia coli	≤ 126 / 100 ml (geometric mean of 5 daily samples during a 30-day period) ≤ 235 / 100 ml (at any one time)
Total alkalinity as calcium carbonate	≤ 750 mg/l (30-day average) ≤ 1,313 mg/l (daily maximum)
Total dissolved solids	≤ 2,500 mg/l (30-day average) ≤ 4,375 mg/l (daily maximum)
Conductivity @ 25○ C	≤ 4,000 microhomhos/cm (30-day average) ≤ 7,000 microhomhos/cm (daily maximum)
Nitrates	≤ 50 mg/l (30-day average) ≤ 80 mg/l (daily maximum)
pH	≥ 6.9 - ≤ 9.5
Total petroleum hydrocarbons	≤ .1 mg/l
Oil and grease	≤ .1 mg/l

Commented [WH14]: The *E. coli* criteria are protective of full contact recreation and there is no need to revise them; however, please be advised that in 2012, EPA revised its Recreational Water Quality Criteria. Compliance is based on both a monthly geometric mean (GM) and a statistical threshold value (STV), which are appropriate for all waters. The Tribe selects one of two sets of criteria that are based on two different illness rates, both of which are protective of the designated use of primary contact recreation. Using an estimated illness rate of 36/1,000 primary contact recreators, the criteria for *E. coli* are: GM: 126 cfu/100 mL and STV: 410 cfu/100 mL. Using an estimated illness rate of 32/1000 primary contact recreators, the criteria for *E. coli* are: GM: 100 cfu/100 mL and STV: 320 cfu/100 mL.

(9) Criteria for Incidental Contact Recreation

Parameter	Criteria
Dissolved oxygen	≥ 5.0 mg/l (daily minimum)
Fecal coliform	≤ 1,000 / 100 ml (geometric mean of 5 daily samples during a 30-day period) ≤ 2,000 / 100 ml(at any one time)
Escherichia coli	≤ 630 /100 ml (geometric mean of 5 daily samples during a 30-day period) ≤ 1,178 / 100 ml (at any one time)
Total alkalinity as calcium carbonate	≤ 750 mg/l (30-day average) ≤ 1,313 mg/l (daily maximum)
Total dissolved solids	≤ 2,500 mg/l (30-day average) ≤ 4,375 mg/l (daily maximum)
Conductivity @ 25° C (77° F)	≤ 4,000 microhomhos/cm (30-day average) ≤ 7,000 microhomhos/cm (daily maximum)
Nitrates	≤ 50 mg/l (30-day average) ≤ 80 mg/l (daily maximum)
pH	≥ 6.9 - ≤ 9.5
Total petroleum hydrocarbons	≤ 1 mg/l
Oil and grease	≤ 1 mg/l

Commented [WH15]: As stated in comment _____ above, EPA revised its recreational water quality criteria. EPA's revised criteria do not recommend *E. coli* values that are less stringent than the criteria recommended for full contact recreation. I recommend that the E. coli criteria for Incidental Contact Recreation be the same as that proposed for full contact recreation.

(10) Criteria for Wildlife

Parameter	Criteria
Total alkalinity as calcium carbonate	≤ 750 mg/l (30-day average) ≤ 1,313 mg/l (daily maximum)
Total dissolved solids	≤ 2,500 mg/l (30-day average) ≤ 4,375 mg/l (daily maximum)
Conductivity @ 25° C (77° F)	≤ 4,000 micromhos/cm (30-day average) ≤ 7,000 micromhos/cm (daily maximum)
Nitrates	≤ 50 mg/l (30-day average) ≤ 80 mg/l (daily maximum)
pH	≥ 6.9 - ≤ 9.0
Total petroleum hydrocarbons	≤ 1 mg/l
Oil and grease	≤ 1 mg/l

(11) Criteria for Agriculture

Parameter	Criteria
Conductivity @ 25° C (77° F)	≤ 2,500 micromhos/cm (30-day average) ≤ 4,375 micromhos/cm (daily maximum)
Sodium Absorption Ratio (SAR)	≤ 10
Total alkalinity as calcium carbonate	≤ 750 mg/l (30-day average) ≤ 1,313 mg/l (daily maximum)
Total dissolved solids	≤ 2,500 mg/l (30-day average) ≤ 4,375 mg/l (daily maximum)
Conductivity @ 25○ C	≤ 4,000 microhomhos/cm (30-day average) ≤ 7,000 microhomhos/cm (daily maximum)
Nitrates	≤ 50 mg/l (30-day average) ≤ 80 mg/l (daily maximum)
pH	≥ 6.9 - ≤ 9.0 units
Total petroleum hydrocarbons	≤ 1 mg/l
Oil and grease	≤ 1 mg/l

(12) Criteria for Industrial Waters

Parameter	Criteria
Total dissolved solids	≤ 3,000 mg/l (30-day average) ≤ 3,500 mg/l (daily maximum)
pH	6.9 – 9.0

(b) If waters have more than one designated use and criteria are established for a parameter is common to two or more uses, the more restrictive criteria for the common parameter shall apply.

Section 5 Numeric Water Quality Standards for Toxic Pollutants

For the purpose of this section, the definition of uses prescribed in section two of this rule shall apply to the "Use" columns.

Pollutant	CAS Number	Human Health Value (µg/L)		Freshwater Aquatic Life Value (µg/L)	
		Use 1	Uses 2-6, 9	Acute (CMC)	Chronic (CCC) (30-day avg.)
Acenaphthene	83329	670	990		
Acenaphthylene (PAH)	208968				
Acrolein	107028	6	9	3	3
Acrylonitrile	107131	0.051	0.25		
Aldrin[(4)]	309002	0.000049	0.000050	3.0	
Anthracene (PAH)	120127	8,300	40,000		
Antimony	7440360	5.6	640		
Arsenic	7440382	0.018	0.14	340	150
Asbestos	1332214	7,000,000 fibers/L			
alpha-BHC	319846	0.0026	0.0049		
beta-BHC	319857	0.0091	0.017		
gamma-BHC (Lindane)	58899	0.98	1.8	0.95	
Benzene	71432	2.2	51		
Benzidine	92875	0.000086	0.00020		
Benzo(a)Anthracene	56553	0.0038	0.018		
Benzo(a)Pyrene	50328	0.0038	0.018		
Benzo(b)Fluoroanthene	205992	0.0038	0.018		
Benzo(k)Flouroanthene	207089	0.0038	0.018		
Beryllium	7440417	4			
Bis(2-Chloroethyl)Ether	111444	0.030	0.53		
Bis(2-Chloroisopropyl) Ether	108601	1,400	65,000		
Bis(2-Ethylhexyl) Phthalate	117817	1.2	2.2		
Bromoform	75252	4.3	140		
Butylbenzyl Phthalate	85687	1,500	1,900		
Cadmium	7440439			2.0	0.25
Carbon Tetrachloride	56235	0.23	1.6		
Chlordane	57749	0.00080	0.00081	2.4	0.0043
Chlorine	7782505			19	11

Chlorobenzene	108907	130	1,600		
Chlorodibromomethane	124481	0.40	13		
Chloroform	67663	5.7	470		
2-Chloronaphthalene	91587	1,000	1,600		
2-Chlorophenol	95578	81	150		
Chromium(III)	16065831			570	74
Chromium(VI)	18540299			16	11
Chrysene	218019	0.0038	0.018		
Copper	7440508	1,300		13	9.0
Cyanide (weak acid dissociable)	57125	140	140	22	5.2
4,4'-DDD	72548	0.00031	0.00031		
4,4'-DDE	72559	0.00022	0.00022		
4,4'-DDT	50293	0.00022	0.00022	1.1	0.001
Dibenzo(a,h)Anthracene	53703	0.0038	0.018		
1,2-Dichlorobenzene	95501	420	1,300		
1,3-Dichlorobenzene	541731	320	960		
1,4-Dichlorobenzene	106467	63	190		
3,3'-Dichlorobenzidine	91941	0.021	0.028		
Dichlorobromomethane	75274	0.55	17		
1,2-Dichloroethane	107062	0.38	37		
1,1-Dichloroethylene	75354	330	7,100		
2,4-Dichlorophenol	120832	77	290		
1,2-Dichloropropane	78875	0.50	15		
1,3-Dichloropropene	542756	0.34	21		
Dieldrin	60571	0.000052	0.000054	0.24	0.056
Diethyl Phthalate	84662	17,000	44,000		
2,4-Dimethylphenol	105679	380	850		
Dimethyl Phthalate	131113	270,000	1,100,000		
Di-n-Butyl-Phthalate	84742	2,000	4,500		
2-Methyl-4,6-Dinitrophenol	534521	13	280		
2,4-Dinitrophenol	51285	69	5,300		
Dioxin (2,3,7,8-TCDD)	1746016	5.0E-9	5.1E-9		
2,4-Dinitrotoluene	121142	0.11	3.4		
1,2-Diphenylhydrazine	122667	0.036	0.20		
alpha-Endosulfan	959988	62	89	0.22	0.056
beta-Endosulfan	33213659	62	89	0.22	0.056
Endosulfan Sulfate	1031078	62	89		
Endrin	72208	0.059	0.060	0.086	0.036
Endrin Aldehyde	7421934	0.29	0.30		
Ethylbenzene	100414	530	2,100		
Fluoranthene	206440	130	140		
Fluorene	86737	1,100	5,300		
Heptachlor	76448	0.000079	0.000079	0.52	0.0038

Heptachlor epoxide	1024573	0.000039	0.000039	0.52	0.0038
Hexachlorobenzene	118741	0.00028	0.00029		
Hexachlorobutadiene	87683	0.44	18		
Hexachlorocyclopentadiene	77474	40	1,100		
Hexachloroethane	67721	1.4	3.3		
Ideno(1,2,3-cd)Pyrene	193395	0.0038	0.018		
Isophorone	78591	35	960		
Lead	7439921			65	2.5
Mercury	7439976	0.050	0.051	1.4	0.77
Methyl Bromide	74839	47	1,500		
Methyl Chloride	74873				
Methylene Chloride	75092	4.6	590		
Methylmercury	22967926		0.3 mg/kg		
N-Nitrosodimethylamine	62759	0.00069	3.0		
N-Nitrosodi-n-Propylamine	621647	0.0050	0.51		
N-Nitrosodiphenylamine	86306	3.3	6.0		
Nickel	7440020	610	4,600	470	52
Nitrobenzene	98953	17	690		
Polychlorinated Biphenyls, PCBs		0.000064	0.000064		0.014
Pentachlorophenol	87865	0.27	3.0	19	15
Phenanthrene	85018				
Phenol	108952	10,000	860,000		
Pyrene	12900	830	4,000		
Selenium	7782492	170	4,200		5.0
Silver	7440224			3.2	
1,2,4-Trichlorobenzene	120821	35	70		
1,1,2,2-Tetrachloroethane	79345	0.17	4.0		
Tetrachloroethylene	127184	0.69	3.3		
Thallium	7440280	0.24	0.47		
Toluene	108883	1,300	15,000		
Toxaphene	8001352	0.00028	0.00028	0.73	0.0002
Genic, or harmful.	156605	140	10,000		
1,1,1-Trichloroethane	71556				
1,1,2-Trichloroethane	79005	0.59	16		
Trichloroethylene	79016	2.5	30		
2,4,6-Trichlorophenol	88062	1.4	2.4		
Vinyl Chloride	75014	0.025	2.4		
Zinc	7440666	7,400	26,000	120	120

Priority pollutants are based upon EPA categories and include parameters determined to be toxic (toxin), carcinogenic (carcinogen) or harmful. Carcinogens are classified by EPA for an oral route of exposure. Standards are based upon the incremental risk of causing one additional instance of cancer. Harmful parameters include nutrients, biological agents and those parameters that cause taste, odor or physical effects.

Section 6 Numeric Water Quality Standards for Radionuclides

The average dissolved concentrations of naturally-occurring or background concentration of radionuclides shall not exceed the following:

Parameter	Numeric Standard
Iodine-131	5 pCi/l (1-year average, no single sample may exceed 15 pCi/l)
Radium-226	5 pCi/l (1-year average, no single sample may exceed 15 pCi/l)
Strontium-89	100 pCi/l (1-year average, no single sample may exceed 300 pCi/l)
Strontium-90	10 pCi/l (1-year average, no single sample may exceed 30 pCi/l)
Tritium	300 pCi/l (1-year average, no single sample may exceed 800 pCi/l)

Section 7 Aquatic Life Standards for Ammonia

All standards are expressed as total ammonia as N.

(a) ph-Dependent values for Acute Criteria (mg N/l)

pH	Salmonids present	Salmonids not present
6.5	32.6	48.8
6.6	31.3	46.8
6.7	29.8	44.6
6.8	28.1	42.0
6.9	26.2	39.1
7.0	24.1	36.1
7.1	22.0	32.8
7.2	19.7	29.5
7.3	17.5	26.2
7.4	15.4	23.0
7.5	13.3	19.9
7.6	11.4	17.0
7.7	9.65	14.4
7.8	8.11	12.1
7.9	6.77	10.1
8.0	5.62	8.40
8.1	4.64	6.95
8.2	3.83	5.72
8.3	3.15	4.71
8.4	2.59	3.88
8.5	2.14	3.20
8.6	1.77	2.65
8.7	1.47	2.20
8.8	1.23	1.84
8.9	1.04	1.56
9.0	0.885	1.32

(b) Temperature and pH-Dependent Values for Chronic Criteria for Fish Early-life Stage Habitat (mg N/l)

	Temperature Degrees C									
pH	**0**	**14**	**16**	**18**	**20**	**22**	**24**	**26**	**28**	**30**
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.48
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.32	1.17	1.03
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179

(c) Temperature and pH-Dependent Values for Chronic Criteria for Fish Early-life Stage Not Present

	Temperature Degrees C									
pH	**0-7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
6.5	10.8	10.1	9.51	8.92	8.36	7.84	7.35	6.89	6.46	6.06
6.6	10.7	9.99	9.37	8.79	8.24	7.72	7.24	6.79	6.36	5.97
6.7	10.5	9.81	9.20	8.62	8.08	7.58	7.11	6.66	6.25	5.86
6.8	10.2	9.58	8.98	8.42	7.90	7.40	6.94	6.51	6.10	5.72
6.9	9.93	9.31	8.73	8.19	7.68	7.20	6.75	6.33	5.93	5.56
7.0	9.60	9.00	8.43	7.91	7.41	6.95	6.52	6.11	5.73	5.37
7.1	9.20	8.63	8.09	7.58	7.11	6.67	6.25	5.86	5.49	5.15
7.2	8.75	8.29	7.69	7.21	6.76	6.34	5.94	5.57	5.22	4.90
7.3	8.24	7.73	7.25	6.79	6.37	5.97	5.60	5.25	4.92	4.61
7.4	7.69	7.21	6.76	6.33	5.94	5.57	5.22	4.89	4.59	4.30
7.5	7.09	6.64	6.23	5.84	5.48	5.13	4.81	4.51	4.23	3.97
7.6	6.46	6.05	5.67	5.32	5.22	4.68	4.38	4.11	3.85	3.61
0.	5.81	5.45	5.11	4.79	4.99	4.21	3.95	3.70	3.47	3.25
7.8	5.17	4.84	4.54	4.26	4.49	3.74	3.51	3.29	3.09	2.89
7.9	4.54	4.26	3.99	3.74	3.99	3.29	3.09	2.89	2.71	2.54
8.0	3.95	3.70	3.47	3.26	3.51	2.88	2.68	2.52	2.36	2.21
8.1	3.41	3.19	2.99	2.81	3.05	2.47	2.31	2.17	2.03	1.91
8.2	2.91	2.73	2.56	2.40	2.63	2.11	1.98	1.85	1.74	1.63
8.3	2.47	2.32	2.18	2.04	2.25	1.79	1.68	1.58	1.48	1.39
8.4	2.09	1.96	1.84	1.73	1.91	1.52	1.42	1.33	1.25	1.17
8.5	1.77	1.66	1.55	1.46	1.62	1.28	1.20	1.13	1.06	0.990
8.6	1.49	1.40	1.31	1.23	1.37	1.08	1.01	0.951	0.892	0.836
8.7	1.26	1.18	1.11	1.04	1.15	0.915	0.858	0.805	0.754	0.707
8.8	1.07	1.01	0.944	0.885	0.976	0.778	0.729	0.684	0.641	0.601
8.9	0.917	0.860	0.806	0.756	0.709	0.664	0.623	0.584	0.548	0.513
9.0	0.790	0.740	0.694	0.651	0.610	0.572	0.536	0.503	0.471	0.442

Section 8 Testing and Analysis

Tests or analytical procedures to determine conformity with criteria shall be made in accordance with methods approved or references listed in 40 CFR §141.3 and 40 C.F.R. Part 136.

Section 9 Narrative Water Quality Standards

(a) No discharge of any material into the Missouri River or the Grand River below U.S. Highway 12 may cause the total dissolved gas pressure to exceed 110 percent of the saturation value.

(b) The discharge into the surface waters of the Reservation of raw or treated sewage, garbage, rubble, unpermitted fill material, municipal wastes, industrial waste, solid waste or agricultural waste which produce floating solids, oil slick, material discoloration of water, sludge, algae blooms, fungus growth or other offensive effects is prohibited.

(c) The discharge into the surface waters of the Reservation of materials which affect the pH of the waters by .5 pH unit is prohibited.

(d) The discharge into the surface waters of the Reservation of materials which will cause undesirable odors is prohibited.

(e) The surface waters of the Reservation shall be free from substances, whether attributable to point-source discharges or non-point source activities, in concentrations or combinations which will adversely impact the structure and function of indigenous or intentionally-introduced aquatic communities.

(f) Materials not constituting a regulated parameter but whose interaction with the waters of the Reservation causes the existence of a regulated parameter are considered pollutants, and may not be discharged into the waters of the Reservation if such discharge shall result in exceedance of the numeric criteria for the designated use or a numeric water quality standard, or cause impairment to an aquatic community.

(g) The biological and physical characteristics naturally present in wetlands shall be protected. There shall be no discharge or fill of any materials into wetlands of the Reservation causing significant adverse effects on –

(1) The chemical, nutrient or dissolved oxygen regime of the wetland;

(2) The movement of aquatic flora or fauna;

(3) The pH of the wetland;

(4) Existing habitats and populations of wetlands animals and vegetation;

(5) Prevention of conditions conducive to the establishment or proliferation of nuisance organisms; or

(6) Plants identified as culturally-significant to the Lakota and Dakota in the report entitled Professor Linda Black Elk, *Culturally-Important Plants of the Lakota* (1998) © Sitting Bull College 1998, *on file* in the Standing Rock Sioux Tribe Department of Water Resources and the Sitting Bull College Department of Cultural Anthropology.

(h) There may be no induced temperature change to waters used as fish spawning beds. No discharge may affect the temperature of fish life propagation waters of 4 degrees F.

Section 10 Outstanding Tribal Resource Waters

(a) Surface waters of the Reservation that are of high quality or of exceptional cultural, recreational or ecological significance, may be designated by the Board, upon the recommendation of the Director, or any person, as an Outstanding Tribal Resource Water.

The factors to be considered in identifying an Outstanding Tribal Resource Water include but are not limited to –

(1) Existing water quality;

(2) Previous special designations (e.g. wild and scenic river);

(3) Ecological value;

(4) Presence of culturally-important plants in wetland area;

(5) Presence of sacred sites in wetland area and cultural uses of water;

(6) Recreational or aesthetic value; or

(7) Other factors that indicate an outstanding ecological, cultural or recreation value (e.g. critical habitat).

Section 11 Anti-degradation Policy and Review Process

Commented [WH16]: [Need to review antideg policy and implementation of antideg policy method.]

(a) For the purposes of this rule, the term "anti-degradation" refers to actions taken to maintain water quality. It allows, in certain cases, new sources of discharge that will diminish water quality which exceeds aquatic life and full contact recreation uses, and provides special protection to waters that constitute an Outstanding Tribal Water Resource pursuant to section 10 of this rule, or a national resource pursuant to 40 CFR §131.12. The Department shall undertake the anti-degradation review process prescribed in this section prior to the issuance of any discharge permit, or any other activity that may affect or impair water quality.

(b) Any proposed discharge or other activity that may diminish water quality for a water of the Reservation that has been designated as an Outstanding Tribal Resource Waters is prohibited.

(c) The water quality of those waters of the Reservation which meet or exceed the criteria and standards prescribed for the designated use shall be maintained and protected.

(d) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(e) Where the quality of the waters exceeds levels necessary to support the protection and propagation of fish, shellfish and wildlife and full contact recreation in and on the water, that quality shall be maintained and protected unless the Board finds that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality –

(1) The Board shall conduct a public hearing in the district in which the proposed discharge is located, and in any other district that may be affected by the proposed discharge, and accept the comments of any interested person; and

(2) An applicant for a permit or person seeking to engage in activities affecting water quality shall provide an analysis of a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity, and no permit shall be issued or activity allowed whenever there is a feasible alternative with less impact on water quality; and

(3) The Department shall assure water quality adequate to protect existing uses fully.

(f) The Department may make determinations of significant degradation based upon appropriate modeling techniques utilizing existing baseline and background water quality data. Proposed activities that would diminish the ambient quality of any parameter by more than 5 percent, reduce the available assimilative capacity by more than 5 percent, or increase pollutant loadings by more than 5 percent shall be presumed to pose significant degradation. Factors indicating the likelihood that a proposed activity will pose significant degradation shall include, but not be limited to, the following –

(1) Percent change in ambient concentrations;

(2) The difference, if any, between existing ambient water quality and ambient water quality that would exist if all point sources were discharging at permitted loading rates;

(3) Percent change in loading;

(4) Percent reduction in available assimilative capacity;

(5) Nature, persistence and potential effects of the parameter at issue;

(6) Potential for cumulative effects;

(7) Predicted impacts to aquatic biota;

(8) Degree of confidence in any modeling techniques utilized; or

(9) The difference, if any, between permitted and existing effluent quality.

(f) Waters of the Reservation that do not meet the criteria and standards for the designated use shall be improved as is feasible to meet the criteria and standards. No further reduction of water quality may be allowed for waters of the Reservation that do not meet the water quality criteria and standards for the designated use.

(g) The Department shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

(h) In those cases where the potential for water quality impairment is associated with a thermal discharge, the anti-degradation water quality review shall be conducted in accordance with section 316 of the Clean Water Act.

(i) An applicant for certification or other person seeking to engage in an activity that may affect water quality on the Reservation may submit a proposal to mitigate the adverse effects of the proposed activity. Such mitigation plans will be developed and implemented by the applicant as a means to further minimize the environmental effects of the proposed activity for approval of an application notwithstanding the requirements of this section. Mitigation plans should include but not be limited to –

(1) A binding commitment to implement mitigation measures prior to any water quality degradation;

(2) Criteria for determining the success of mitigation; and

(3) A binding commitment for on-going monitoring or mitigation measures, if necessary.

Section 12 Mixing Zones

(a) A zone of mixing is allowed for the discharge of wastewater into flowing surface water. Each properly-treated wastewater discharge to a flowing water must meet the chronic criteria established for the designated uses of the receiving water at the edge of its zone

of mixing. Concentration of substances in the discharge must not cause the acute criteria established for the designated uses to be exceeded. No mixing zone may be granted, if approval of the mixing zone or dilution allowance will threaten or impair exiting uses.

(b) All mixing zones shall be free from substances that –

(1) Settle to form objectionable objects;

(2) Float as debris, oil, foamy substances or other matter;

(3) Produce objectionable color, odor, taste or turbidity;

(4) Are acutely toxic; or

(5) Produce undesirable or nuisance aquatic life.

(c) No effluent discharges shall be permitted –

(1) Above the critical flow water-surface elevation of the receiving water; or

(2) For chemical parameters which have the potential to persist or bioaccumulate in the aquatic environment.

(d) No mixing zone or dilution allowance is allowed for any lake or Outstanding Tribal Resource Water.

(e) Data utilized to configure mixing zones shall be subject to review and revision as information related to the permitted discharge becomes available.

Section 13 401 Certification

(a) Section 401 of the Clean Water Act requires that applicants for a federal license or permit relating to any activity which may result in any discharge in any navigable waters (i.e. waters of the United States) that shall retain certification from EPA or the Board that such discharge shall comply with the applicable provisions of sections 301-303 and 306-307 of the Clean Water Act. The purpose of this regulation is to establish procedures for the

application, public notice and hearing for an application for certification required in section 401 of the Clean Water Act.

(b) No discharge of pollutants or construction of any facility which may precipitate a discharge of pollutants into the surface waters of the Reservation, including wetlands, may commence without first obtaining written certification of such discharge pursuant to this section.

(c) An application for certification may be made upon a form supplied by the Department or in any manner that adequately and accurately describes –

(1) The applicant's name and address;

(2) The proposed point source or activity;

(3) The volume, and biological, chemical, physical and radiological characteristics of the proposed discharge;

(4) The existing environmental conditions at the site of the proposed discharge;

(5) The location or locations at which the proposed discharge would enter the waters of the Reservation;

(6) Any environmental assessment, information, maps, or photographs provided to any agency;

(7) The date or dates of the proposed activity's commencement and termination;

(8) The methods proposed to monitor the composition and characteristics of the discharge and operation of the facility; and

(9) The functions and operation of the activity and any practices proposed to minimize or treat pollutants or other effluent that may be discharged into the waters of the Reservation.

(d) In cases where a Clean Water Act section 402 permit application has been made to EPA or a Clean Water Act section 404 permit application has been made to the Army Corps of Engineers, an applicant may submit a complete copy of that application to the Department; provided, however, that the Department may request additional information as deemed reasonably necessary.

(e) Upon receipt of an application for certification, the Department shall make a record of the date of its receipt. If upon examination the application is found to be defective or incomplete, it will be returned promptly to the applicant for correction or completion, and the date and reasons for the return shall be marked on a copy of the application and made of record in the Department's files. The applicant shall be notified of the deficiencies by certified mail within 45 days of receipt by the Department of the application. The applicant shall have 30 days from receipt of notification of the incomplete application to supply complete information. If no response or an inadequate response is received by the Department, the application shall be deemed to have been withdrawn by the applicant. No untimely response shall be considered by the Department, although an applicant may reapply for certification at any time.

(f) The Department shall provide public notice of an application for certification, by posting it conspicuously in the Tribal Administration Building and in the office of each local district council, and by mailing the application to individuals or organizations that have expressed an interest in the quality of the waters of the Reservation. The applicant shall cause the application to be published in the Teton Times and McLaughlin Messenger, and provide proof of the publication to the Department. The Board shall conduct a public hearing in the district in which the proposed discharge is located, and in any other district that may be affected by the proposed discharge, and accept the comments of any interested person.

(g) Within 45 days of submission of a complete application and supporting scientific and technical information to the Board, the Board may either grant, deny or grant with conditions the application for 401 certification. The response from the Department may be extended by additional 30 days for good cause.

(g) Notwithstanding the timelines prescribed in this section, if the Department accepts the application and later determines that additional information is required before a certification decision may be made, such information may be required at a later date without rejecting the application. Upon a determination by Department that the additional information renders an application for certification to be complete, the Department may grant, deny or grant with conditions the application.

(h) A certification, certification with conditions, or denial of certification shall be approved by a majority of Board members voting at a meeting duly called in which a quorum is present. Written notice shall be provided by the Department to the applicant by certified mail within five working days, assigned a docket number and retained in the Department's records. The Department shall issue a statement of reasons for a denial of certification in a notice provided under this section.